[JOINT COMMITTEE PRINT]

TAXATION OF PETROLEUM IMPORTS

SCHEDULED FOR HEARINGS

BEFORE THE

SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

OF THE

SENATE COMMITTEE ON FINANCE

ON FEBRUARY 27-28, 1986

PREPARED BY THE STAFF

OF THE

JOINT COMMITTEE ON TAXATION

FEBRUARY 26, 1986

U.S. GOVERNMENT PRINTING OFFICE

57-860 O WASHINGTON : 1986 JCS-5-86

ERRATA for JCS-5-86
("Taxation of Petroleum Imports")
February 26, 1986

On p. 3

The third line in the first paragraph under the heading, **Petroleum tax**, should read as follows:

"tax had not already been paid, on the use or export of domestically" (emphasis on words corrected)

On p. 8

In the fifth line of the first full paragraph under Table 3, change 70 percent to "30 percent".

On p. 22

In the second line of the first paragraph under the heading, **high cost producers**, change $17 to "$16."

On p. 29

The first word of the last line of the first paragraph under the heading, **E. International Relations**, should be "net".

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INTRODUCTION

The Subcommittee on Energy and Agricultural Taxation of the Senate Committee on Finance has scheduled public hearings on February 27–28, 1986, on the taxation of petroleum imports.

Part I of this pamphlet [1] provides an overview of present law provisions relating to Federal tax treatment of petroleum. Part II discusses economic data relating to petroleum consumption, production and imports. Part III describes three legislative proposals for the Subcommittee hearings: S. 1507 (introduced by Senators Boren and Bentsen); S. 1997 (introduced by Senators Wallop and Bentsen); and S. 1412 (introduced by Senator Hart). Part IV discusses several issues relating to these proposals.

[1] This pamphlet may be cited as follows: Joint Committee on Taxation, *Taxation of Petroleum Imports* (JCS–5–86), February 26, 1986.

I. PRESENT LAW

A. Highway Trust Fund Taxes

Under present law, an excise tax is imposed on gasoline sold by a producer or importer thereof (sec. 4081), and on the sale (or use) of diesel fuel and special motor fuels (sec. 4041). The tax rate for gasoline and special motor fuels is 9 cents per gallon; diesel fuels generally are taxed at a 15-cents-per-gallon rate. Exceptions are provided for diesel and special motor fuels sold for export; used by a State or political subdivision, or by a nonprofit educational organization; used on a farm for farming purposes; and for certain other off-highway uses. Gasoline, diesel, and special motor fuels which are partially derived from alcohol (i.e., gasohol) are taxed at reduced rates.

Amounts equivalent to the revenues derived from these taxes are deposited in the Highway Trust Fund.[2] Also allocated to this Trust Fund are excise taxes on heavy trucks and trailers and on tires for heavy highway vehicles (i.e., trucks), as well as an annual use tax on certain heavy vehicles. The Highway Trust Fund taxes are each scheduled to expire after September 30, 1988.

B. Aviation Excise Taxes

A series of excise taxes are imposed on aviation, in order to fund the Airport and Airway Trust Fund. These include a 12-cents-per-gallon tax on gasoline,[3] and a 14-cents-per-gallon tax on other fuels, used in noncommercial aviation. Taxes also are imposed on commercial air passenger tickets, domestic air cargo, and international passenger departures. These taxes are each scheduled to expire after December 31, 1987.

C. Inland Waterways Trust Fund Tax

A tax is imposed on diesel and other liquid fuels used for commercial cargo vessels on inland or intra-coastal waterways. The present tax rate is 10 cents per gallon. Revenues from the tax are deposited in the Inland Waterways Trust Fund.

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[2] Amounts attributable to gasoline used in noncommercial aviation are instead deposited in the Airport and Airways Trust Fund (see B., below). Amounts attributable to taxes on gasoline and special motor fuels used in motorboats are deposited in the Aquatic Resources Trust Fund ($1 million in annual revenues are reserved for the Land and Water Conservation Fund.)

[3] The 12-cent gasoline tax incorporates the 9-cent-per-gallon rate described in A., above, as well as a 3-cent aviation tax. For gasoline used in noncommercial aviation, the equivalent of the full 12 cents per gallon is deposited in the Airport and Airway Trust Fund.

D. Superfund Taxes

Prior to October 1, 1985, excise taxes were imposed on petroleum and certain chemicals to fund the Hazardous Substance Response Trust Fund ("Superfund").

Petroleum tax

A tax of 0.79 cent per barrel was imposed on the receipt of crude oil at a U.S. refinery, the import of petroleum products and, if the tax had not already been paid, on the use of export or domestically produced oil.

Domestic crude oil subject to tax included crude oil condensate and natural gasoline, but not other natural gas liquids. Taxable crude oil did not include oil used for extraction purposes on the premises from which it was produced, or synthetic petroleum (e.g., shale oil, liquids from coal, tar sands, biomass), or refined oil.

Petroleum products which were subject to tax upon import included crude oil, crude oil condensate, natural and refined gasoline, refined and residual oil, and any other hydrocarbon product derived from crude oil or natural gasoline which entered the United States in liquid form. The term "United States" was defined to mean the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, the Trust Territory of the Pacific Islands, and any possession of the United States, as well as the Outer Continental Shelf and foreign trade zones located within the United States.

The petroleum tax expired after September 30, 1985.

Tax on feedstock chemicals

The tax on feedstock chemicals applied to the sale or use of 42 specified organic and inorganic chemicals ("feedstock chemicals") by the manufacturer, producer, or importer. These chemicals generally are hazardous substances, or may create hazardous products (or wastes) when used. The tax rates ranged from 22 cents to $4.87 per ton of the chemical concerned.

The tax on feedstock chemicals expired after September 30, 1985.

E. Crude Oil Windfall Profit Tax

An excise tax is imposed on the windfall profit element of the price of domestically produced crude oil when it is removed from the premises on which it was produced. Generally, the windfall profit element is the excess of the sale price over the sum of its adjusted base price and the applicable State severance tax adjustment. The windfall profit element may not exceed 90 percent of net income attributable to a barrel of crude oil.

The tax rates applicable to taxable crude oil are as follows:

Tier	Tax rate
Tier 1 oil (oil not in tier 2 or tier 3).	70 percent; 50 percent for independent producers (up to 1,000 barrels per day).
Tier 2 oil (stripper oil, Petroleum Reserve oil).	60 percent; 30 percent for independent producers (up to 1,000 barrels per day).[1]
Tier 3 oil:	
Newly discovered oil	22.5 percent for 1985–1987, 20 percent for 1988, and 15 percent for 1989 and thereafter.
Heavy oil and incremental tertiary oil	30 percent.

[1] Independent producer stripper well oil is exempt from the tax.

Crude oil from a qualified governmental interest or a qualified charitable interest, certain front-end oil, certain Indian oil, certain Alaskan oil, certain independent producer stripper well oil, and, in the case of qualified royalty owners, up to three barrels per day of royalty production, are exempt from the tax.

The windfall profit tax is scheduled to phase out over a 33-month period, beginning after December 31, 1987, or (if later) after the cumulative revenue raised by the tax reaches $227.3 billion, but in any event no later than January 1991. Receipts from the Windfall Profit tax, net of refunds, were $6.3 billion in fiscal 1985, and are projected to decline in the Administration's fiscal 1987 budget to $4.1 billion in 1986 and $2.8 billion in 1987. (These receipts may be overstated, since projections were made before the sharp decline in the world market price of oil during the first 6 weeks of calendar year 1986.)

F. Import Fee Authority

Under the Trade Expansion Act of 1962, the President can impose oil import fees or import quotas if he finds that imports threaten the nation's security. Congress may roll back such fees by passing a joint resolution of disapproval. However, this resolution can be vetoed by the President, in which case the fees he imposed would continue in effect unless the President's veto is overridden by a two-thirds vote of both Houses of Congress. These procedures for Congressional vetoes and overrides were specified by the Crude Oil Windfall Profit Tax Act of 1980 (P.L. 96-223).

Under an exemption from the General Agreement on Tariffs and Trade (GATT), a tariff imposed on national security grounds is not a violation of trade agreements. Consequently, enactment of a tariff on imported petroleum for legitimate national security reasons would not result in the imposition of GATT-authorized countervailing duties or other trade penalties.

The presidential import fee authority was used, to various extents, by Presidents Nixon, Ford, and Carter. President Nixon im-

posed import license fees of 21 cents per barrel for crude oil and 63 cents on refined products in 1973 (this differential was intended to encourage domestic refining). President Ford imposed an additional $2 per barrel crude oil import fee in 1975, but lifted the fee early in 1976. President Carter raised the possibility of an import fee in 1977 and again in 1979, in response to which Congress adopted the veto and override provisions contained in the Crude Oil Windfall Profit Tax Act. (Both the Ford import fee and the original Carter proposal were intended to encourage action on broader energy proposals.) President Carter actually imposed a $4.62 per barrel import fee in 1980, with allocation rules that effectively converted the fee into a 10-cents-per-gallon gasoline tax. However, a resolution of disapproval was passed by the Congress, and President Carter's veto of that resolution was overridden.

G. Tariff on Imported Petroleum

Tariffs are imposed on various categories of articles that are imported into the customs territory of the United States (including the 50 states, the District of Columbia, and Puerto Rico). The tariffs generally are imposed at a uniform rate for imports from most noncommunist countries, with separate, higher rates imposed on imports from certain communist nations. Preferential treatment applies to certain imports from developing countries, specified Caribbean basin nations, and Israel. Imports from U.S. insular possessions, where the imported product is not comprised primarily of foreign materials, may be made duty-free. Tariffs are imposed pursuant to the Tariff Act of 1930 (19 U.S.C. sec. 1202 *et seq.*), and are generally subject to GATT limitations.

At present, a tariff of 0.125 cent per gallon is imposed on crude petroleum, topped crude petroleum, shale oil, and distillate and residual fuel oils derived from petroleum, with low density (under 25 degrees A.P.I.). For substances with higher densities (testing 25 degrees A.P.I. or more), the tariff is 0.25 cent per gallon.[4] (Imports from certain communist countries are subject to a 0.5-cent-per-gallon tariff, regardless of density.) A 1.25-cents-per-gallon tariff (2.5 cents, for certain communist countries) also is imposed on certain motor fuels and a 0.25-cent-per-gallon tariff (0.5 cent, for certain Communist countries) on petroleum-derived kerosene and naphtas (except motor fuels). Natural gas, together with methane, ethane, propane, butane, and mixtures thereof may be imported tariff-free. Certain Canadian petroleum also may be admitted tariff-free, subject to an exchange agreement allowing like treatment for an equivalent amount of U.S. petroleum imported into Canada.

[4] Degrees API equals 141.5 divided by specific gravity, less 131.5.

II. PETROLEUM CONSUMPTION, PRODUCTION AND IMPORTS

Petroleum consumption

U.S. petroleum consumption peaked in 1978 at about 38 quadrillion British thermal units (Btus), and has declined by 18 percent to 31 quadrillion Btus in 1984 (see Table 1). This decline in petroleum consumption occurred concurrently with a 12 percent increase in the real output of the economy: the U.S. gross national product (GNP) increased from $3.115 trillion in 1978 to $3.492 trillion in 1984 (in 1982 dollars). The achievement of higher levels of output with smaller amounts of petroleum has been made possible by impressive improvements in energy efficiency. In 1978, 12.2 thousand Btus of petroleum were required to produce one dollar of output (measured in terms of 1982 dollars). By 1984, the petroleum requirement per dollar of output had dropped 27 percent to 8.9 thousand Btus.

Table 1.—U.S. Petroleum Consumption per Dollar of GNP, 1973–1984

[Dollar amounts measured in terms of 1982 prices]

Year	Petroleum consumption (quadrillion Btu)	Real GNP (trillion $)	Petroleum consumption per dollar of GNP (1,000 Btu/$)	Average refiner acquisition cost of crude oil ($/bbl)
1973	34.840	2.744	12.7	8.38
1974	33.455	2.729	12.3	16.80
1975	32.731	2.695	12.1	17.50
1976	35.175	2.827	12.4	17.26
1977	37.122	2.959	12.5	17.77
1978	37.965	3.115	12.2	17.26
1979	37.123	3.192	11.6	22.54
1980	34.202	3.187	10.7	32.75
1981	31.931	3.249	9.8	37.49
1982	30.232	3.166	9.5	31.87
1983	30.054	3.275	9.2	27.93
1984	31.051	3.492	8.9	26.48

Sources: Energy Information Administration, *Monthly Energy Review, October 1985* (January 26, 1986), pp. 7, 12; Energy Information Administration, *Annual Energy Review 1984* (April 1985), p. 123; Council of Economic Advisers, *Economic Report of the President* (February 1986), p. 256.

Over the 1978–1984 period, the average refiner acquisition cost of crude oil increased by 53 percent, from $17.26 per barrel to $26.48 per barrel (in 1982 dollars), in response to which the demand for

petroleum per dollar of GNP dropped by 27 percent (see Table 1). Thus, the historical experience shows that U.S. demand for petroleum is quite responsive to price.

The majority of domestic petroleum is consumed in transportation uses: almost 62 percent in 1983 (see Table 2). Motor gasoline alone accounts for 42 percent of U.S. petroleum consumption, and diesel fuel, jet fuel, and aviation gasoline together account for an additional 17 percent. Industial uses of petroleum amount to one-fourth of petroleum consumption. The remaining petroleum consumption is divided between electric utility generation (5.1 percent), residential use (4.8 percent), and commercial use (3.0 percent). Heating oil (distillate fuel) comprises 70 percent of residential petroleum use (3.3 percent of U.S. petroleum consumption), and about one-half of commercial petroleum use.

Table 2.—Petroleum Consumption by Sector, 1983

[Trillion Btu]

Petroleum product	Residential	Commercial	Industrial	Transportation	Electric utilities	Total
Distillate fuel	995.7	422.0	1,286.4	2,919.4	0	5,623.5
Kerosene	86.2	30.0	146.6	NA	0	262.8
LPG [1]	352.4	62.2	1,538.2	37.4	0	1,990.2
Motor gasoline [2]	0	103.0	113.1	12,480.8	0	12,696.9
Residual fuel	0	270.7	728.5	821.6	0	1,820.8
Asphalt and road oil	0	0	904.1	0	0	904.1
Lubricants	0	0	166.6	157.4	0	324.0
Other petroleum	0	0	2,697.4	0	0	2,697.4
Aviation gasoline	0	0	0	47.7	0	47.7
Jet fuel	0	0	0	2,140.9	0	2,140.9
Heavy oil [3]	0	0	0	0	1,439.6	1,439.6
Light oil [4]	0	0	0	0	96.2	96.2
Petroleum coke	0	0	0	0	7.9	7.9
Total	1,434.3	888.0	7,580.8	18,605.2	1,543.7	30,052.0
Percent of total	4.8	3.0	25.2	61.9	5.1	100.0

[1] Liquefied petroleum gases include ethane, ethylene, propane, propylene, butane, butylene, butane-propane mixture, ethane-propane mixture, and isobutane.

[2] Motor gasoline use in the transportation sector includes: highway and marine use; commercial sector use includes miscellaneous, public nonhighway, and unclassified only; industrial sector use includes: agricultural, construction, and industrial and commercial use.

[3] Heavy oil includes grade nos. 4, 5, and 6 residual fuel oils.

[4] Light oil includes grade no. 2 heating oil, kerosene, and jet fuel.

Source: Energy Information Administration, *State Energy Data Report: Consumption Estimates, 1960–1983* (May 1985) pp. 5–9.

Petroleum production

Domestic oil and gas exploration and development activities peaked in 1981. In that year, 681 seismic crews were employed and 3,970 rotary drilling rigs were in operation. Over 90 thousand exploratory and development wells were completed, and total depth drilled exceeded 400 million feet (see Table 3). By 1985, seismic crews had dropped 40 percent to 387, and rotary drilling rigs in operation had declined by one-half. Over the 1981–85 period, the

number of wells completed fell by 20 percent, and total footage drilled declined by about 23 percent. These data indicate a substantial decline in the number of men and rigs employed in the search for oil and gas. Productivity in the oil and gas driling industry appears to have improved over the 1981–1985 period, since the decline in well completions and footage drilled (20 and 23 percent) was only half the magnitude of the decline in crews and rigs (40 and 50 percent).

Table 3.—Oil and Gas Resource Development, 1973–1985

Year	Crews engaged in seismic exploration	Rotary rigs in operation	Exploratory and development well completions [1] (1,000 wells)	Total footage drilled [1] (million feet)	Crude oil wellhead price (1982 $)
1973	250	1,194	27.69	139.42	7.86
1974	305	1,472	33.03	153.79	12.72
1975	284	1,660	38.89	181.05	12.93
1976	262	1,658	40.94	187.29	12.98
1977	308	2,001	45.86	215.70	12.73
1978	352	2,259	50.05	238.39	12.47
1979	400	2,177	51.91	243.69	16.08
1980	530	2,909	69.73	312.03	28.69
1981	681	3,970	90.13	409.13	33.80
1982	588	3,105	83.59	375.77	28.52
1983	473	2,232	74.41	313.30	25.23
1984	494	2,428	83.68	365.25	23.94
1985 [2]	387	1,980	71.84	313.90	NA

[1] Excludes service wells and stratigraphic cores.
[2] Through November 1985.

Sources: Energy Information Administration, *Monthly Energy Review, October 1985* (January 26, 1986), pp. 64, 65; Energy Information Administration, *Annual Energy Review, 1984* (April 1985), p. 119; Council of Economic Advisers, *Economic Report of the President* (February 1986), p. 256.

Table 3 shows that drilling activity is highly correlated with the price received by domestic producers. The average wellhead price of crude oil peaked at $33.80 per barrel (1982 dollars) in 1981—the same year that drilling activity reached its highest level. By 1984, the wellhead price of crude oil had declined by 70 percent to $23.94 per barrel (1982 dollars). The decline in drilling activity over the last four years is in striking contrast to the boom in oil and gas exploration over the 1973–1981 period. During that period, well completions and footage drilled increased by approximately 200 percent, in response to a 330 percent increase in the average wellhead price of crude oil (see Table 3).

As a result of increased exploration and development activity, annual additions to gross reserves of oil and gas increased from 2.9 billion barrels in 1976 to 7.3 billion barrels in 1981 (see Table 4). Reserve additions exceeded production in 1981; consequently, proved reserves of hydrocarbons increased slightly from 69.9 billion barrels in 1980 to 70.3 billion barrels in 1981. However, since 1981, reserve additions have not quite kept pace with production, and

proved reserves declined to 69 billion barrels in 1983. At current petroleum prices, it appears unlikely that future reserve additions will exceed production.

Table 4.—U.S. Production and Proved Reserves of Hydrocarbons,[1] 1976–1983

[Billion barrels]

Year	Exploration and development expenditures (billions of 1982 $)	Additions to gross reserves of hydrocarbons	Production of hydrocarbons	Proved reserves of hydrocarbons
1976	23.6	2.947	6.730	NA
1977	25.3	3.765	6.777	NA
1978	28.3	3.679	6.918	72.8
1979	41.9	5.071	6.970	70.0
1980	47.1	6.723	6.995	69.9
1981	59.3	7.303	6.954	70.3
1982	53.7	5.030	6.682	68.8
1983	NA	6.408	6.397	69.0

[1] Hydrocarbons include crude oil, natural gas liquids, and natural gas.

Sources: Energy Information Administration, *Annual Energy Review, 1984* (April 1985), pp. 77–79; Council of Economic Advisers, *Economic Report of the President* (February 1986), p. 256.

Table 4 shows that despite the doubling of exploration and development expenditures from $23.6 billion in 1976 to $53.7 billion in 1982 (in 1982 dollars), reserve additions increased only two-thirds, and production was virtually flat. These data show that the substantial increase in exploration and development activity since the 1973–74 oil price shock has not resulted in higher levels of hydrocarbon production.

Petroleum imports

Net imports of petroleum peaked in 1977 at 8.6 million barrels per day, or 46.5 percent of U.S. petroleum products supplied (see Table 5). By 1982, net imports had declined by 50 percent to 4.3 million barrels per day, or 28.1 percent of domestic petroleum products supplied. About 70 percent of the reduction in import dependence is attributable to the decline in domestic petroleum use from 18.4 million barrels per day in 1977 to 15.3 million barrels per day in 1982. The relationship between net imports and domestic demand is clearly indicated by the recent rise in import dependence from 28.1 percent in 1981 to 30.0 percent in 1984. This increase in the share of imports mirrors the rise in domestic petroleum consumption over the 1982–84 period.

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Table 5.—U.S. Dependence on Net Petroleum Imports, 1973–1984

[Thousand barrels per day]

Year	Domestic field production [1]	Imports	Exports	Net imports	Petroleum products supplied	Net imports as percent of petroleum products supplied
1973	10,975	6,256	231	6,025	17,308	34.8
1974	10,498	6,112	221	5,892	16,653	35.4
1975	10,045	6,056	209	5,846	16,322	35.8
1976	9,774	7,313	223	7,090	17,461	40.6
1977	9,913	8,807	243	8,565	18,431	46.5
1978	10,328	8,363	362	8,002	18,847	42.5
1979	10,179	8,456	471	7,985	18,513	43.1
1980	10,214	6,909	544	6,365	17,056	37.3
1981	10,230	5,996	595	5,401	16,058	33.6
1982	10,252	5,113	815	4,298	15,296	28.1
1983	10,299	5,051	739	4,312	15,231	28.3
1984	10,544	5,437	722	4,715	15,726	30.0

[1] Includes crude oil, natural gas plant production, lease condensate, other hydrocarbons, and alcohol.

Source: Energy Information Administration, *Monthly Energy Review, October 1985* (January 26, 1986), pp. 13, 37.

Most petroleum imports come from sources outside of the Organization of Petroleum Exporting Countries (OPEC): in 1984, only 35.5 percent of U.S. imports were from OPEC (see Table 6). Less than 9 percent of imports in 1984 were supplied by Arab member countries of OPEC. Mexico, Canada, and Venezuela supplied the largest shares of U.S. petroleum imports in 1984, accounting for 16.7, 15.2 and 12.2 percent of imports, respectively. Including petroleum products from Caribbean refineries, which account for an additional 9 percent of U.S. imports, almost half of petroleum imports in 1984 were from western hemisphere sources. In summary, U.S. petroleum imports are diversified among many suppliers.

Table 6.—Imports of Petroleum by Source, 1984

[Thousand barrels per day]

Country	Import volume	Percent of total imports
Algeria	186	3.7
Libya	5	0.1
Saudi Arabia	123	2.5
United Arab Emirates	48	1.0
Indonesia	306	6.1
Iran	30	0.6
Nigeria	275	5.5
Venezuela	607	12.2
Other OPEC	193	3.9
Total OPEC [1]	1,772	35.5
Total Arab OPEC [2]	434	8.7

Table 6.—Imports of Petroleum by Source, 1984—Continued

[Thousand barrels per day]

Country	Import volume	Percent of total imports
Bahamas	33	0.7
Canada	756	15.2
Mexico	831	16.7
Netherlands Antilles	36	0.7
Trinidad and Tobago	116	2.3
United Kingdom	317	6.4
Puerto Rico	30	0.6
Virgin Islands	241	4.8
Other non-OPEC	854	17.1
Total non-OPEC [3]	3,213	64.4
Total imports	4,986	100.0

[1] Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.
[2] Includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.
[3] Includes petroleum imported into the United States indirectly from OPEC countries, primarily from Caribbean and West European areas, as refined petroleum products that were refined from crude oil produced in OPEC countries.

Source: Energy Information Administration, *Monthly Energy Review, October 1985*) (January 26, 1986), pp. 42-3.

To reduce vulnerability to sudden import disruptions, the United States began filling the Strategic Petroleum Reserve (SPR) in 1977. As of November 1985, the SPR contained 493 million barrels (see Table 7). At 1985 import levels, the SPR now contains sufficient reserves to replace all net imports for a period of 117 days. Under the Administration's fiscal year 1987 budget, the SPR would not be increased above 500 million barrels, about equal to its present level.

Table 7.—Strategic Petroleum Reserve, 1977–1985

[Million barrels]

Year	End of year reserve	Net imports per day	Days of net imports in reserve
1977	7	8.6	1
1978	67	8.0	8
1979	91	8.0	11
1980	108	6.4	17
1981	230	5.4	43
1982	294	4.3	68
1983	379	4.3	88
1984	451	4.7	96
1985 [1]	493	4.2	117

[1] Data on net imports is through November 1985.
Source: Energy Information Administration, *Monthly Energy Review, October 1985* (January 26, 1986), pp. 37, 41.

Refineries

U.S. refinery output has declined 15 percent from 15.9 million barrels per day in 1978 to 13.7 million barrels per day in 1984 (see Table 8). The contraction in the refinery industry is a direct consequence of the reduction in domestic petroleum consumption over the 1978–1984 period, which occured in response to higher oil prices. Reduced demand has lowered capacity utilization in the nation's refineries, and forced many less efficient plants to shut down. The recent decline in the world market price of oil, and concurrent growth in U.S. demand, would be expected to improve the future financial situation of the domestic refinery industry.

Table 8.—U.S. Refinery Input and Output, 1973–1984

[Million barrels per day]

Year	Input	Output	Processing gain	Capacity utilization (percent)	Number of refineries[1]
1973	13.40	13.85	0.45	93.9	268
1974	13.02	13.50	0.48	86.6	273
1975	13.23	13.68	0.46	85.5	279
1976	14.20	14.68	0.48	87.8	276
1977	15.35	15.87	0.52	89.6	282
1978	15.47	15.97	0.50	87.4	296
1979	15.24	15.76	0.53	84.4	308
1980	14.02	14.62	0.60	75.4	319
1981	13.48	13.99	0.51	68.6	324
1982	12.86	13.39	0.53	69.9	301
1983	12.65	13.14	0.49	71.7	258
1984	13.14	13.70	0.56	76.1	247

[1] All operable refineries on January 1 of each year.

Source: Energy Information Administration, *Annual Revenue Energy, 1984* (April 1985) pp. 103–5.

Table 8 shows that refinery output consistently exceeds refinery input. This expansion in the volume of petroleum through the refining process is known as the "processing gain." In 1984, the average refinery gain was about 4 percent.[5]

World petroleum market

The United States consumes more petroleum products than any other country in the world, accounting for 25.6 percent of world consumption in 1982 (see Table 9A). The member nations of the Or-

[5] As a result, a $1 per barrel tax on crude oil is equivalent, on average, to a $0.96 per barrel tax on refined products. Consequently, a flat $1 per barrel tax on petroleum imports favors crude oil relative to refined products.

ganization for Economic Cooperation and Development (OECD) together account for 58.1 percent of world petroleum consumption.

Table 9A.—World Consumption of Petroleum

[Thousand barrels per day]

Country	Consumption of petroleum, 1982	Percent of world consumption
Australia	660	1.1
Canada	1,620	2.7
France	1,940	3.2
West Germany	2,320	3.9
Italy	1,780	3.0
Japan	4,550	7.6
Spain	1,010	1.7
United Kingdom	1,590	2.7
United States	15,300	25.6
Other OECD	3,920	6.6
Total OECD	34,690	58.1
Brazil	1,080	1.8
China	1,660	2.8
Mexico	1,360	2.3
USSR	9,250	15.5
Total world	59,740	100.0

Source: Energy Information Administration, *Annual Energy Review, 1984* (April 1985), p. 225; Energy Information Agency, *Monthly Energy Review, October 1985* (January 26, 1986), pp. 104–6.

Table 9B.—World Production of Petroleum, 1984

[Thousand of barrels per day]

Country	Production of crude oil, 1984	Percent of world production
Algeria	638	1.2
Iraq	1,209	2.2
Kuwait [1]	1,157	2.1
Libya	1,087	2.0
Qatar	394	0.7
Saudi Arabia [1]	4,663	8.6
United Arab Emirates	1,146	2.1
Arab OPEC	10,294	19.0
Indonesia	1,466	2.7
Iran	2,175	4.0
Nigeria	1,419	2.6
Venezuela	1,813	3.3
Total OPEC	17,576	32.5
Canada	1,436	2.7
Mexico	2,750	5.1
United Kingdom	2,495	4.6
United States	8,879	16.4
China	2,269	4.2
USSR	11,878	21.9
Other	6,847	12.6
Total world	54,130	100.0

[1] Includes about one-half of the production from the former Kuwait-Saudi Arabia neutral zone.

Source: Energy Information Administration, *Annual Energy Review, 1984* (April 1985), p. 225; Energy Information Agency, *Monthly Energy Review, October 1985* (January 26, 1986), pp. 104–6

Table 9B shows that the largest petroleum producers in the world are not in the Middle East: in 1984, the Soviet Union and the United States produced the largest shares of world petroleum output, which were 21.9 and 16.4 percent, respectively. Total OPEC production accounts for slightly less than one-third of world petroleum output, and Arab members of OPEC produce less than one-fifth of world output.

The price of petroleum products in the United States generally is lower than in Western Europe, the United Kingdom and Japan. For example, the average price of gasoline in the United States was $1.21 per gallon in 1984. This was one-third less than the average price of $1.89 per gallon in ten International Energy Agency (IEA) countries (see Table 10). This price differential primarily is attributable to lower gasoline excise taxes in the United States. The U.S. price advantage is considerably smaller for other petroleum products. For example, in 1984 industrial heavy oil was approximately $4 per barrel cheaper in the United States than in

other IEA countries, a price advantage of 13 percent. Thus, a $5 per barrel tax would raise the price of heavy oil to U.S. industry above the price to industrial customers in other IEA countries.

Table 10.—International Petroleum Prices, Fourth Quarter 1984

Country	Diesel fuel (cents/ gallon)	Gasoline (cents/ gallon)	Heating oil (cents/ gallon)	Industrial light oil (cents/ gallon)	Industrial heavy oil ($/bbl)	Electric Generation heavy oil ($/bbl)
United States [1]	119	121	105	86	27.64	29.89
Canada	129	143	100	101	36.64	NA
France	158	220	117	112	30.53	NA
West Germany	148	181	100	88	28.33	28.52
Italy	117	260	131	114	29.62	NA
United Kingdom	162	192	98	83	31.54	NA
Sweden	132	182	110	110	40.37	37.71
Netherlands	117	204	111	NA	29.80	NA
Austria	149	153	NA	NA	NA	NA
Japan	NA	237	146	131	31.87	NA
Average	137	189	113	103	31.82	32.04

[1] U.S. price of heating oil and industrial light oil does not includes taxes.

Source: Energy Information Administration, *International Energy Review, 1980–1984*. (August 1985), pp. 38–48.

III. LEGISLATIVE PROPOSALS

A. S. 1507 (Senators Boren and Bentsen)

Explanation of Provisions

Tariff increase on imported crude oil and related products

The bill would increase the present tariffs imposed on imported crude petroleum and related refined products by adding an "applicable offset amount" to the present per barrel tariff rate. This amount would be determined by the excess of the base price of an article (as determined below) over the average world price of such article. The average world price for a particular article is to be determined by the prices of such article for the calendar quarter six months preceding the quarter in which the tariff is imposed. The Secretary of Energy is to determine, based on available information, the average world price of each article for each calendar quarter. The bill provides that the first determination of the average world price for a calendar quarter is to be for the quarter beginning on April 1, 1985 and further determinations would be made for each calendar quarter thereafter.

Determination of base price

The bill provides that for crude petroleum, the base price is $30 per barrel. The applicable offset amount for crude petroleum would be limited to a maximum of $5 per barrel although it could be a lesser amount if the average world price exceeded $25 per barrel. For motor fuel; kerosene derived from petroleum or shale oil; naphthas derived from petroleum, shale oil, or natural gas; and other mixtures of hydrocarbons in liquid form; the base price is $35 per barrel. The limit for the applicable offset amount for each of these articles is $10 per barrel. In the event the average world price of a particular article equals or exceeds the base price for such article, the present per barrel rate contained in the Tariff Schedules of the United States would continue to be imposed.

Procedures and administration

The bill provides that the revenues generated from the increased tariff are to be allocated into a new account in the general fund of the Treasury known as the Petroleum Tariff Account. To the extent the account is not reduced by any refunds (as discussed below), the balance in the account is to be used to reduce the deficit in the Federal budget. The increased tariff is to be imposed and collected in the same manner as the present tariff.

The Secretary of Engery is directed to publish the average world price of each article for each quarter in the *Federal Register* by no later than 60 days following the close of each calendar quarter. The Secretary of the Treasury is directed to publish the applicable

offset amount for each article for each quarter in the *Federal Register* by no later than 15 days before the beginning of each calendar quarter.

Exceptions to the tariff

The bill provides that the revenues generated by the tariff may be refunded from the Petroleum Tariff Account if (1) any article is shown to be used as heating fuel, or in the production of heating fuel, or (2) it is shown that the article is necessary and inherent to the manufacturing process of exports. The bill does not specify how refunds are to be determined in certain situations (e.g., when the average world price of an article fluctuates between the quarter in which the article is imported and the quarter in which the article is used).

Effective Date

The bill does not provide any effective date for the increased tariff. Because the Secretary of Energy is directed by the bill to begin determining the average world price for each article for the calendar quarter beginning April 1, 1985, the earliest date the bill could be effective is for the quarter beginning January 1, 1986.

B. S. 1997 (Senators Wallop and Bentsen)

Explanation of Provisions

Excise tax on imported crude oil and petroleum products

This bill would impose an excise tax on crude oil or refined petroleum products that are imported into the United States, in the amount described below. The tax would be imposed, on the first sale of the crude oil or refined product within the United States. If the crude oil or refined product is used before tax otherwise has been imposed, then the tax would be imposed on that use. The tax would be paid by the seller of the taxable product (in the case of use, by the user of the product).

All non-domestic crude oil (as defined for purposes of the crude oil windfall profit tax) would be subject to the tax. Refined petroleum products subject to the tax would include imported refined oil fuels, and chemical feedstocks which are refined or derived from oil, but would not include process fuels, heating oil for household use, residual fuel oil, and topped crude oil imported for further refining. Liquid natural gas imports would not be subject to the tax.

Amount of tax

For crude oil imports, the amount of tax per barrel [6] would equal the excess (but not below 50 cents) [7] of (1) the reference price of $22 per barrel, over (2) the world price, determined by taking the average of the per barrel prices for Rotterdam brent crude, Saudi light, and North Sea forties crude oil, as of the end of the preceding cal-

[6] A barrel is defined as 42 United States gallons.

[7] It is the staff's understanding that the intent of this provision is that no tax would be imposed if the reference price exceeded the average price by less than 50 cents (e.g., if the average price were $21.50 or more in 1986).

endar quarter. (This determination would be made by the Secretary of the Treasury, after consulting with the Secretary of Energy.)

For imports of refined petroleum products, the tax rate would be determined by adding (1) the amount of tax per barrel of crude oil, as determined above, and (2) an "environmental outlay adjustment" of $3 per barrel. This rate then would be multiplied by the barrel-of-oil equivalent of the refined product. (One barrel-of-oil equivalent equals 5.8 million Btu's.) The environmental outlay adjustment appears to apply to imports of refined products even when the world price of oil exceeds the reference price.

Both the $22 reference price and the $3 environmental outlay adjustment would be indexed for changes in per capita gross national product (GNP), beginning in calendar year 1988. This would be accomplished by multiplying each amount by the percentage (if any) by which the average per capita GNP for the 36-month period ending the previous June 30 exceeds the average per capita GNP for the 36-month period ending June 30, 1985. The amounts so determined would be rounded to the next highest dollar. The Treasury Department would be required to publish the adjusted amounts not later than December 15, 1987, and in each succeeding calendar year.

Exceptions to tax

As indicated above, the tax would not apply to process fuels, liquid natural gas, heating oil for household use, residual fuel oil, and topped crude oil imported for further refining.[8]

An exception to the tax also would be provided for crude oil or refined petroleum products that are sold for export, or for resale to a second purchaser for export. The tax would be reimposed on such transactions unless, within 6 months after the sale, the seller receives proof that the crude oil or refined product actually has been exported. For purposes of this exception, the term "export" includes shipment to a United States possession.

Procedure and administration

Procedures, tax returns, and penalties with respect to the tax would be equivalent to those applicable to the crude oil windfall profit tax, except as provided by Treasury regulations where such treatment would be inappropriate.[9] Persons subject to the tax also would be required to register with the Treasury Department before actually incurring liability for the tax.

Deductibility against income tax

The tax imposed by the bill would be fully deductible against Federal income taxes.

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[8] The staff understands that the sponsors of the bill are considering narrowing the exemptions from tax.

[9] Except as otherwise provided in regulations, the windfall profit tax is required to be withheld by the first purchaser of domestic crude oil from the price paid for the oil; if withholding is not required, the tax is paid by the seller. The purchaser and operator also may elect to have the operator assume the purchaser's responsibilities under certain cases. Returns are filed on a quarterly basis, with semimonthly deposits being required for major refiners and retailers and monthly deposits (not later than 45 days after the close of the month) for most other purchasers.

Effective Date

The provisions of the bill would apply with respect to sales of imported crude oil and refined petroleum products in calendar quarters beginning more than 30 days after the date of enactment.[10]

C. S. 1412 (Senator Hart)

Explanation of Provisions

$10 per barrel additional tariff

This bill would impose an additional $10 per barrel tariff on imports of crude petroleum and refined products that are subject to tariffs under present law.[11] The additional tariff would not apply to natural gas imports, or to any other import which presently may be made tariff-free. Tariffs would be imposed (when applicable) on imports into the customs territory of the United States (including the 50 states, the District of Columbia, and Puerto Rico.)

Application of revenues

Under the bill, the Secretary of Health and Human Services and the Secretary of Energy would determine the monetary effect of the additional tariff on lower-income individuals and families adversely affected by increased energy costs. An equivalent amount of revenues from the tariff would be used to increase funding for Federal programs under which financial assistance (including loans and loan guarantees) is provided to such individuals and families. Remaining revenues would be applied to reduce social security taxes. This reduction would be allocated among States in proportion to the monetary effect of the increased tariff on the residents of that State, again as determined by the Secretary of Health and Human Services and the Secretary of Energy.[12] The reduction itself would be implemented by the Secretary of the Treasury, in fiscal years beginning after the date of enactment.

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[10] The bill does not specify whether use of crude oil sold before the effective date would be subject to the tax (e.g., by means of a floor stocks tax).

[11] *See,* Section I.G., above, for present law tariff provisions.

[12] This would appear to require the imposition of different social security tax rates in various states.

IV. ISSUES

A. Energy Policy

In general

A tax on the sale or use of imported petroleum (such as provided by S. 1997) is economically equivalent to an increase in petroleum tariff rates (such as provided by S. 1507). Both would raise the domestic price of petroleum above the world market price by the amount of the tax or tariff.[13] This would influence both the domestic demand and supply for petroleum.

Domestic consumers confronted with higher petroleum prices over time will reduce petroleum consumption. Demand reduction occurs as consumers shift to alternative fuels, improve energy efficiency, and curtail consumption of goods and services produced from petroleum.

Domestic producers would receive an increased price for existing production. In addition, some domestic petroleum and synthetic fuels which are unprofitable to develop at world market prices may be produced at a profit as a result of tariff protection. This would tend to increase domestic petroleum production.

The supply and demand effects of an oil import tax both tend to reduce the share of petroleum imports in the domestic market. With higher domestic production and lower domestic consumption, there would be a reduction in imports into the U.S. market.

Energy security

The sharp increases in the world price of oil in 1973–74 and 1979–80 have raised concerns about the vulnerability of the U.S. economy to world oil market shocks. Although net petroleum imports have declined from over 46 percent to less than 30 percent of U.S. petroleum supply, concern remains that the U.S. is overly dependent on foreign petroleum. Some support a tax or increased tariffs on imported petroleum to reduce import dependence.

Others argue that reducing the share of imports in the U.S. petroleum market will not necessarily reduce U.S. vulnerability to oil price shocks. Since oil is traded in a world market, a shortage which pushes up the world price immediately will increase the domestic price. Price controls, such as existed before 1980, can be used to dampen price shocks; however, shortages may arise. As an alternative, the Strategic Petroleum Reserve (SPR), which now contains a 117-day supply of imports, may be used to drive down the price of petroleum in the event of a world shortage.

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[13] At a sufficiently high tariff rate, imports would be eliminated and the domestic price of petroleum might rise by less than the full amount of the tariff.

Since petroleum reserves are finite, policies which encourage substitution of domestic for imported petroleum may reduce import dependence in the near term, while increasing long-run dependence on foreign oil.

High cost producers

The spot market price of West Texas Intermediate has declined by approximately 40 percent, from $26 to $17 per barrel, during the first 6 weeks of 1986. Some attribute this precipitous decline in the price of oil to an intentional flooding of the world market by Saudi Arabia and other OPEC members. It is argued that OPEC intends to drive high cost producers, such as tertiary recovery and heavy oil producers, out of the market. This might allow OPEC to raise prices sharply in the future.

An oil import tax could be used to protect high cost domestic petroleum producers from the decline in world oil prices. However, this approach would be expensive for consumers since both high and low cost producers would be subsidized by an import tax. A less costly alternative would be to target financial assistance to high cost producers, although this would be complex to administer.

Government intervention in the oil market may be unnecessary if the market anticipates a sharp increase in the world market price of oil. If this scenario is anticipated by high cost producers, then they will retain production capability until prices rise, or their reserves may be purchased by investors who anticipate a future price increase.

Price volatility

Both S. 1507 and S. 1997 would impose a "floating tax" on imported petroleum. The amount of the tax (tariff) depends on the excess of a specified base price over the world market price of petroleum. The floating tax boosts the domestic price of petroleum up to the base price when the world market price drops below this base price amount (under S. 1507 the floating tax is limited to $5 per barrel for crude oil and $10 per barrel for petroleum products). The floating tax concept is advocated as a means of stabilizing the domestic price of oil.

Rapid swings in the price of oil may impose real burdens on the economy. However, the floating tax proposals do not reduce domestic price volatility when the world market price is above the base price. Under S. 1507, the volatility of crude oil prices also is not reduced when the world market price falls below $25 per barrel (due to the $5 per barrel tax ceiling). Under certain circumstances, these proposals actually could magnify the volatility of the domestic price of oil because of lags in measuring the world market price. Under S. 1507, the base price of crude oil is $30 per barrel, and the world market price of oil is determined with a 6-month lag. If the world market price of oil increases from $25 per barrel, 6 months before the floating tax takes effect, to $40 per barrel, on the effective date, a $5-per-barrel tax would be imposed (the excess of the $30 base price over the $25 world market price 6 months earlier). Thus, the domestic price of crude oil would increase $20 per barrel (from $25 to $45 per barrel) over the 6-month period, even though

the increase in the world market price is only $15 per barrel (from $25 to $40 per barrel).

B. Industry Impacts

Industrial use of petroleum products

Industrial customers accounted for over 25 percent of petroleum in the United States in 1984. A petroleum import tax would raise the price of petroleum products to domestic consumers, and increase production costs for industries that use petroleum products as fuels or feedstocks. Industries that use natural gas also would confront higher production costs to the extent that the price of natural gas rises in response to a tax on petroleum. In addition, manufacturers that use materials (e.g., plastics) and services (e.g., electricity) produced from petroleum would experience increased production costs as a result of an oil import tax. These cost increases are part of the way in which a tax on imported oil encourages conservation.

An oil import tax may have adverse affects on energy intensive manufacturers that compete with foreign producers in the United States or in foreign markets. For example, under an oil import tax, foreign petrochemical manufacturers would have an advantage over domestic producers since foreign producers would not be subject to tax on their petroleum feedstocks. As a result, a petroleum import tax creates an advanatge for imported over domestically manufactured petrochemicals. Similarly, U.S. exports of petrochemicals would be disadvantaged relative to foreign-produced petrochemicals.

The effect of a $5 per barrel petroleum import tax on manufacturing can be estimated from the energy intensity of domestic industries. Table 11 shows the quantity of petroleum products directly consumed in the major industry groups relative to the value of shipments. The industries with the most intensive use of petroleum products are: paper; stone, clay, and glass; chemicals; and primary metals. The tax burden imposed by a $5 per barrel petroleum tax as a percent of the value of shipments is: 0.4 percent in paper; 0.1 percent in stone, clay, and glass; 0.1 percent in chemicals; and 0.08 percent in primary metals. These estimates understate the total burden since indirect petroleum consumption (e.g., electricity), and the effect of a petroleum tax on competing fuels (e.g., natural gas) is not taken into account.

Table 11.—Industrial Use of Petroleum Products, 1980

Industry group	Petroleum products used (Trillion Btu)	Value of shipments (Billion dollars)	Petroleum use per dollar of shipments (Btu/$)	Import tax as a percent of shipments (%)
Food and kindred products	108.3	256.2	422.9	0.03
Tobacco products	2.8	12.2	232.0	0.02
Textile mill products	42.3	47.3	896.0	0.07

Table 11.—Industrial Use of Petroleum Products, 1980—Continued

Industry group	Petroleum products used (Trillion Btu)	Value of shipments (Billion dollars)	Petroleum use per dollar of shipments (Btu/$)	Import tax as a percent of shipments (%)
Apparel and textile products	3.7	45.8	81.5	0.01
Lumber and wood products	29.9	47.1	634.3	0.05
Furniture and fixtures	4.8	22.3	216.5	0.02
Paper and allied products	366.7	72.8	5,037.0	0.40
Printing and publishing	6.0	69.5	86.2	0.01
Chemical and allied products	193.7	162.5	1,192.1	0.10
Petroleum and coal products	59.7	198.7	300.5	0.02
Rubber and plastic products	28.3	47.3	597.4	0.05
Leather and leather products	4.5	9.8	462.3	0.04
Stone, clay and glass	56.3	46.1	1,220.6	0.10
Primary metal industries	136.6	133.9	1,020.0	0.08
Fabricated metal products	26.0	116.2	223.5	0.02
Machinery, except electrical	23.4	180.7	129.6	0.01
Electric equipment	18.3	128.6	142.4	0.01
Transportation equipment	35.4	186.5	189.9	0.02
Instruments, related products	8.4	44.1	190.8	0.02
Miscellaneous manufacturing	5.4	25.0	217.8	0.02
Total, all industries	1,160.7	1,852.7	626.5	0.05

Source: U.S. Bureau of the Census, *Census of Manufacturing*, 1982.

If it is desired to reduce the impact of an oil import tax on U.S. manufacturers, a refund (or income tax credit) for industrial use of petroleum and petroleum products could be considered. However, this would be difficult for a number of reasons.

Although the impact of higher petroleum prices affects all users of oil products, only 32 percent of petroleum used in the United States would be taxed under an import tax. A refund for all industrial use of petroleum, which accounts for 25 percent of petroleum use, potentially would forfeit 78 percent (25 divided by 32) of the tax collected on imports.

A refund of tax for industrial use of petroleum might be limited to petroleum products that are imported or refined from imported crude oil, as is the case in S. 1507. However, tracing the use of imported petroleum would be complicated because oil is fungible. Also, no relief would be provided for industrial use of petroleum products refined from domestic crude. As a result, there would be an incentive not to refine domestic crude for industrial purposes. Furthermore, industrial customers actually might pay a premium for products refined from foreign oil in order to be eligible for a tax refund.

A refund of tax for industrial use of petroleum would not compensate for higher electricity costs, and coal and natural gas prices that would result from a petroleum import tax.

Increasing the Federal excise tax on gasoline and diesel fuels has been suggested as a alternative to a petroleum import tax to reduce adverse competitive impacts.

Refinery impact

Both S. 1507 and S. 1997 would impose a higher rate of tax on imports of refined petroleum products than on imports of crude oil. The tax differential for refined products provides some protection for domestic refiners. This would allow domestic refiners to increase profit margins, and encourages expansion of domestic refinery output. Increased U.S. refining activity would reduce imports of refined petroleum products relative to crude oil. (Refined products accounted for 36 percent of petroleum imports in 1985).

The benefit that domestic refineries might obtain from a differential tax on imported refined products would be reduced to the extent that exemptions are provided for certain petroleum products. S. 1507 exempts heating fuel and products used to manufacture exports; S. 1997 exempts process fuels and residual fuel oil. Since the tax on imported crude oil raises production costs of domestic refineries, exemptions for imported refined products favor foreign over domestic refineries. The net effect of these legislative proposals on domestic refineries depends on whether the higher profit margin on taxed petroleum products offsets the lower margin on exempt products.

A tax on imported crude oil would increase refiner acquisition costs above the world market price, which would reduce the export competitiveness of U.S. refiners. Thus, a tax on imported petroleum would reduce profits from exports of refined products unless domestic refiners are compensated for higher petroleum acquisition costs.

Some argue that a differential tariff on refined petroleum products is justified because environmental regulations impose higher compliance costs on U.S. refiners than on many of their foreign competitors. Others contend that the logic of this argument implies that the tariff on refined products should vary according to the stringency of environmental regulations in the country where imported refined products are produced. Also, many other domestic industries confront high environmental compliance costs and do not receive tariff protection. Some industries with high environmental costs, such as chemicals and pulp and paper, could become less competitive as a result of a tax on imported petroleum.

Banking

The decline in the world market price of oil has reduced the value of oil industry assets and the value of land located in oil producing regions of the countries. Loans based on the value of oil industry assets are threatened by the recent decline in petroleum prices. As a result, banks with a large portfolio of energy-related loans may be confronted with reduced income and possible insolvency. One argument for a tax on imported oil is that it would reduce the failure rate of banks with significant domestic energy loans. This would reduce potential Federal government outlays to the extent that these lending institutions are Federally insured.

Others argue that present law addresses the problem of bank failures at a lower cost to taxpayers than would be the case under an oil import tax. Under persent law, Federal expenditures are targeted to financially troubled lending institutions. An oil import tax would benefit all lending institutions with domestic energy loans, regardless of risk of loss or insolvency, and the cost would in large part be borne by energy consumers.

A number of U.S. banks have made large loans to Mexico, Venezuela, and other oil exporting countries. A tax on imported petroleum could reduce the ability of oil exporting countries to service their debts to U.S. banks. Consequently, a petroleum import tax could harm some banks with international loans to oil exporting countries while helping other banks with domestic energy loans. Thus, a tax on imported petroleum may not be beneficial to the U.S. banking industry as a whole.

C. Income Distribution of Tax Burden

A tax on imported petroleum may be passed through to individuals in the form of (1) higher prices for products whose manufacture requires petroleum, (2) lower wages paid by petroleum using firms, (3) reduced dividends and distributions made by petroleum using firms, and (4) higher wage, dividend, and royalty income from petroleum production and related activities. Since petroleum is used in virtually all sectors of the economy, it is difficult if not impossible to trace the full effect of a tax on imported petroleum on prices. A tax on imported petroleum may result in higher prices of petroleum substitutes such as natural gas. These price increases also may redistribute domestic income.

One way to analyze the distributional impact of a petroleum tax is to limit consideration to direct household consumption of refined petroleum products. Table 12 shows that low-income households spend a much larger portion of household income on refined products than high-income households. Households with income below $5,000 in 1980–81 spent 52.8 percent of household income on refined products, while households with income over $50,000 devoted only 3.1 percent of income to refined products. As a result of this consumption pattern, the burden of a $5 per barrel tax on petroleum would fall relatively more heavily on lower income households. Such a tax would amount to a 5.0-percent tax on the income of households in the below-$5,000 income class, compared to a 0.3-per-

ent tax on the income of households in the above-$50,000 income lass.[14]

Table 12.—Income Distribution of Petroleum Consumption, 1980–1981

Income class (dollars)	Household petroleum [1] expenditures as a percent of income (percent)	Household petroleum consumption per dollar of income (Btu/dollar)	Import tax [2] as percent of income (percent)
-5,000	52.8	53,001	5.0
-10,000	11.5	11,454	1.1
0-20,000	8.8	8,720	0.8
0-30,000	6.9	6,802	0.6
0-40,000	5.8	5,742	0.5
0-50,000	4.8	4,777	0.5
0,000+	3.1	3,034	0.3
Total	7.9	7,840	0.7

[1] Includes home heating oil, liquefied petroleum gas, gasoline, diesel fuel, erosene, and motor oil.

[2] Assumes $5 per barrel tax on imported crude oil and refined products with no xemptions.

Source: U.S. Bureau of the Census, *Consumer Expenditure Survey.*

D. Regional Impacts

A tax on imported petroleum would have varying effects on regional income as a result of differences in petroleum production and consumption in different parts of the country. Regions that derive most of their energy from coal and nuclear power would benefit relative to regions that are dependent on petroleum. Petroleum producing areas of the country generally would benefit relative to areas without petroleum reserves. However, to the extent that shareholders of petroleum companies reside outside of producing regions, some of the benefits of higher oil prices would accrue in net energy consuming regions of the country. The adverse effect of an oil import tax on manufacturing income would be felt by the owners and employees of petroleum intensive companies in every region of the country.

One way to assess the regional impact of an oil import tax is to compare the consumption of petroleum products in different regions of the country.[15] Table 13 shows the regional distribution of

[14] This analysis considers only direct petroleum consumption by households and assumes that a petroleum tax is passed through to consumers in the form of higher prices for refined products.

[15] This analysis assumes implicitly that the burden of a petroleum tax on an industrial user falls in the region of the country where the use occurs. Also, this analysis does not take into account the effect of higher petroleum prices on the income from petroleum producing and related activities, nor the effect on prices of competing fuels such as natural gas. For a discussion of issues involved in modeling regional effects of energy price changes see, Joeseph P. Kalt and Robert A. Leone, "A Model of Regional Income Accrual Under Energy Price Decontrol," Harvard Institute for Economic Research, Discussion Paper 1041 (February 1984).

petroleum product consumption in 1983. On average, 11 thousand Btus of petroleum were consumed per dollar of personal income in the United States in 1983. In the west south central states, petroleum consumption was 20.2 thousand Btus per dollar of personal income, almost twice the national average. These data suggest that the west south central states would be adversely affected by a petroleum import tax compared to the middle Atlantic and north central states where petroleum consumption is about 20 percent less than the national average.

Table 13.—Regional Distribution of Petroleum Consumption,[1] 1983

[Thousand Btu's per dollar of personal income] [2]

Region [3]	Residential	Transportation	Industrial and commercial	Total
New England	1.6	4.9	4.4	10.9
Middle Atlantic	0.9	4.7	3.2	8.8
Eastern North Central	0.4	5.6	2.7	8.7
Western North Central	0.7	7.3	3.5	11.4
South Atlantic	0.5	7.5	2.8	10.7
Eastern South Central	0.3	9.1	3.2	12.6
Western South Central	0.2	9.9	10.2	20.3
Mountain	0.3	8.3	3.0	11.6
Pacific Coast	0.1	7.1	2.1	9.3
U.S. average	0.5	6.8	3.7	11.0

[1] Includes road oil, aviation gas, distillate fuel, kerosene, liquified petroleum gas lubricants, motor gasoline, residual fuel, and other petroleum products.

[2] Personal income is defined as income from all sources before tax, excluding military employees stationed abroad.

[3] New England includes CT, ME, MA, NH, RI, VT; Middle Atlantic includes NJ, NY, PA; Eastern North Central includes IL, IN, MI, OH, WI; Western North Central includes IA, KS, MN, MO, NE, ND, SD; South Atlantic includes DE, FL, GA, MD, DC, NC, SC, VA, WV; Eastern South Central includes AL, KY, MS, TN; Western South Central includes AR, LA, OK, TX: Mountain includes AZ, CO, ID, MT, NV, NM, UT, WY; and Pacific Coast includes CA, OR, WA.

Source: U.S. Dept. of Energy, Energy Information Agency, *State Energy Data Survey*, 1983.

Table 13 shows that the high rate of petroleum consumption in the southwest is due to transportation and industrial use of petroleum, rather than residential use. Residential petroleum consumption is less than half the national average in the west south central and pacific coast states, and more than three times the national average in New England. This is due primarily to the greater consumption of home heating oil in the northeastern region of the United States. Consequently, an oil import tax would more adverse

y affect residential petroleum consumers in the northeastern than n the southwestern States.

In contrast to residential petroleum use, industrial and commer- ial use of petroleum is three times the national average in the outhwestern states. Transportation use of petroleum, primarily asoline, is almost 50 percent above the national average in the outhwest, compared to 30 percent below average in New England nd the middle Atlantic States.

While the oil-producing States would benefit substantially from igher oil prices that would result from an import tax, the data in able 13 show that part of this benefit is likely to be offset because hese States spend a much higher proportion of personal income on etroleum products. To determine the net effect of a petroleum mport tax on any region of the country requires tracing the in- rease in oil-related income to the ultimate recipients of this ncome, and tracing the increase in the price of products derived rom petroleum to the consumers of these products.

E. International Relations

The effect of a tax on an increased tariff on petroleum would be o raise the domestic price of petroleum relative to the world narket price. This relative price shift occurs either because the do- nestic price of petroleum increases, or because they world market rice falls. In the former case, the tax merely distributes income rom domestic consumers to domestic producers and the govern- ment. In the latter case, the tariff has no effect in the United States; instead, the effect of the tariff is to transfer wealth from countries that are net petroleum exporters to countries that are ot importers, such as the United States.

An importing country may be able to shift the burden of a prod- ct tariff to exporting countries in situations where it consumes a arge portion of world production, and its demand for the product s relatively sensitive to price changes. Some argue that a U.S. tax n imported oil is desirable because some of the tax would in effect e paid by exporting countries in the form of a reduced world narket price of oil. Importers such as Japan and Europe would enefit from a decline in the world price of oil resulting from a J.S. tariff on oil imports.

To the extent that a U.S. tariff or import tax lowers the world narket price of petroleum, countries that are net petroleum ex- orters would experience a decline in export income. This could educe the ability of countries such as Mexico and Venezuela to ervice their debts to U.S. banks. In order not to jeopardize debt epayment agreements with Mexico and Venezuela, some have sug- ested that these countries should be exempt from a U.S. tax on mported petroleum. Others argue that only Mexico should be ex- empted because Venezuela is a member of OPEC. However, under a treaty of friendship, commerce, and navigation (FCN), the United States is obliged to tax Venezuelan products at the most favorable rate applicable to other nations. Thus, an exemption for Mexico might require a similar exemption for Venezuela.

Exemption from a petroleum import tax also has been proposed for Caribbean countries that export refined products to the United States (principally the Virgin Islands, Puerto Rico, the Netherlands Antilles, the Bahamas, Trinidad, and Tobago). Such an exemption might be desirable to avoid overriding the zero rate of tariff extended to most Caribbean countries under the Administration's Caribbean Basin Initiative.

Some argue that Canada also should be exempted as a reward for recent concessions granted on energy sales to the United States. However, under the most favored nation provisions of the General Agreement on Tariffs and Trade (GATT), special tariff treatment provided to one signatory country (such as Canada) must be extended to all GATT signatories, unless a waiver is approved by the GATT Council. (The trade benefits extended by the Caribbean Basin Initiative are permitted by GATT as a result of such a waiver.) Thus, an exemption for Canada may necessitate exemptions for the United Kingdom as well as a number of OPEC countries to which GATT rules apply, namely: Indonesia, Nigeria, Algeria, the United Arab Emirates, Gabon, Kuwait, and Qatar.

Mexico, Venezuela, the Caribbean, and GATT signatory countries supplied 90 percent of U.S. petroleum imports in 1985. Consequently, exempting these countries from a petroleum import tax would reduce tax revenues by 90 percent. More revenue might be lost as a result of exempt countries shifting oil exports to the United States, or diversion of oil from non-GATT producers (such as Saudi Arabia) through GATT producers (such as Algeria). While rules could be adopted to deny exemption to diverted oil, it may not be possible to make these rules work effectively.

F. Revenue Effect

A $5-per-barrel tax on imported crude oil and petroleum products, with no exemptions, beginning in fiscal year 1987 (October 1 1986), is estimated to increase net tax receipts by $7.4 billion in 1987. Over 5 fiscal years, such a tax is estimated to increase net tax revenues by $37.8 billion. These estimates take into account increased windfall profit tax collections, reduced gasoline excise tax collections, and lower income tax receipts as a result of the deductibility of the tax on business petroleum expenditures.

Exemptions from a petroleum import tax could reduce revenues significantly. For example, Mexico and Canada accounted for 32 percent of petroleum imports in the first 11 months of 1985. Consequently, an exemption for imports from these two countries would reduce gross revenues from a petroleum import tax by about one third. Caribbean countries supplied 9.1 percent of U.S. imports in 1985 (through November), and Venezuela supplied 12.2 percent. If exemptions also were provided to Venezuela and the Caribbean countries, the reduction in gross revenues from a petroleum import tax would rise to over one-half.

Exemptions for home heating oil and industrial use of petroleum also may be expensive. About 3 percent of petroleum is used for residential heating oil, and an additional 26 percent is used by in

dustry.[16] Thus, industrial use of petroleum products and residential use of heating oil together account for 29 percent of U.S. petroleum consumption. By contrast, gross imports accounted for only 32 percent of U.S. petroleum consumption in 1985. Thus, 90 percent of gross revenues from an import fee might be lost if rebates were provided for home heating oil and industrial petroleum use. Refunds could be limited only to home heating oil and industrial use of products refined from imported oil (as in S. 1507). However, to maximize refunds it is likely that imported oil would be used primarily to refine products qualifying for a rebate.

Both S. 1507 and S. 1997 would impose a floating rate of tax on imported petroleum, depending on the world price of oil, rather than a specific dollar amount of tax per barrel. Thus, the amount of revenue raised by these bills depends on the future price of oil in the world market. Given the tremendous uncertainty about the future course of world oil prices, any revenue estimate of these legislative proposals must be viewed as subject to a large margin of error. If Congress wishes to use a petroleum import tax to achieve a specific revenue target, the rate of tax would need to be set equal to a fixed amount per barrel to avoid revenue fluctuations due to unanticipated swings in the world price of petroleum.

G. Macroeconomic Effect

A tax on imported petroleum can be expected to increase the domestic price of petroleum products and competing fuels, such as natural gas. At least initially, this would increase the overall price level. With higher prices, consumer demand for money increases. Unless the Federal Reserve System accommodates the increased demand for money by increasing the money supply, the result would be somewhat higher interest rates. Higher interest rates may adversely effect investment in plant and equipment and consumer durables, and this may reduce economic growth. During the oil price shocks of 1973–74 and 1979–80, inflation and interest rates both increased sharply, and real GNP declined.[17]

Data Resources, Inc. estimates that a $5 per barrel decline in the price of oil will add 0.6 percentage points to real GNP growth and will cut the consumer price index inflation rate by a full percentage point in the first year.[18] A $5 per barrel petroleum import tax would be expected to offset much of the anticipated macroeconomic benefits from a fall in world oil prices.

To the extent that petroleum imports are reduced by an oil import tax, the value of the dollar would be expected to increase relative to other currencies. This would tend to put downward pressure on U.S. prices which would offset, to some degree, the increase

[16] Distillate oil consumed in the residential sector amounted to 3.3 percent of total U.S. petroleum consumption in 1983. More recent data indicate that industrial use of petroleum products accounted for 25.8 percent of U.S. consumption in 1984.

[17] Real GNP declined by 0.5 percent in 1974 and by 0.2 in 1980. Inflation, as measured by the GNP implicit price deflator, increased from 6.5 percent in 1973 to 9.1 percent in 1974, and from 7.3 percent in 1978 to 8.9 percent in 1979. Three-month Treasury Bill rates increased from 7.0 to 7.8 percent over the 1973–74 period, and from 10.0 to 11.5 percent over the 1979–80 period.

[18] Data Resources, Inc., *Forecast Summary*, p. 5.

in the price level caused by higher energy prices. However, the merchandise trade balance may not improve, even if petroleum imports decline, because the higher value of the dollar may cause imports of other products to increase.